TOWN OF DAVIE
TOWN COUNCIL AGENDA REPORT

TO: Mayor and Councilmembers

FROM/PHONE: Marcie Nolan, AICP, Acting Development Services Director/(954)797-1101

PREPARED BY: David M. Abramson, Deputy Planning and Zoning Manager

SUBJECT: Wireless Telecommunication Infrastructure Application: WTI 3-1-07/07-61/Sheridan House Inc.-RGP Tower Group/1700 South Flamingo Road/Generally located at the southeast corner of Flamingo Road and Southwest 14th Street.

AFFECTED DISTRICT: District 3

ITEM REQUEST: **Schedule for Council Meeting**

TITLE OF AGENDA ITEM: TELECOMMUNICATIONS - A RESOLUTION OF THE TOWN OF DAVIE, FLORIDA, APPROVING RGP TOWER GROUP LLC'S SUBMITTED WIRELESS TELECOMMUNICATION INFRASTRUCTURE APPLICATION FOR A NEW STEALTH FACILITY WITHIN THE SHERIDAN HOUSE INC. PROPERTY, AND PROVIDING AN EFFECTIVE DATE.

REPORT IN BRIEF: The petitioner (RGP Tower Group LLC) requests Wireless Telecommunication Infrastructure Application approval to construct a new Stealth Facility within the Town of Davie. This request is in accordance with Land Development Code, Section 12-519(C), which states that a new Stealth Facility shall come before the Town Council for consideration.

This Stealth Facility is being proposed within the Sheridan House Inc. property at 1700 South Flamingo Road, generally located at the southeast corner of Flamingo Road and Southwest 14th Street. Sheridan House Inc. has agreed to lease a forty (40) by forty (40) foot compound that will be enclosed by a green vinyl clad chain link fence in the southwestern portion of the property. Additionally, the exterior of the compound will meet the Town's landscaping requirements while the interior consists of a one-hundred and twenty (120) foot high stealth antenna that resembles a flag pole, four (4) lease areas for future telecommunication carriers, and lease areas for generators.

In accordance with the Land Development Code, this application was reviewed by a third party consultant (CityScape Consultants Inc.) to ensure that all Federal, State, and Local Wireless Communication Facility regulations were being met. (See attachments)

PREVIOUS ACTIONS: n/a

CONCURRENCES: n/a

FISCAL IMPACT: not applicable

Has request been budgeted? n/a

RECOMMENDATION(S):
Staff finds the application complete and suitable for transmittal to the Town Council for further consideration. The following are recommendation(s) that shall be met prior to final approval:

1. Staff recommends that all conditions within the Cityscape Consultants Inc. report be met.
2. All of the plant material that is required must be listed on the plant list (Include a note by the species * to refer to the plan for alternate location due to easement restriction).

Attachment(s):
Resolution, Wireless Telecommunication Infrastructure Plan, Cityscape Consultant Report, Future Land Use Map, Aerial, Zoning, & Subject Site Map

RESOLUTION NO._____

A RESOLUTION OF THE TOWN OF DAVIE, FLORIDA, APPROVING RGP TOWER GROUP LLC'S SUBMITTED WIRELESS TELECOMMUNICATION INFRASTRUCTURE APPLICATION FOR A NEW STEALTH FACILITY WITHIN THE SHERIDAN HOUSE INC. PROPERTY, AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the subject property is located at 1700 South Flamingo Road, generally located at the southeast corner of Flamingo Road and Southwest 14th Street; and,

WHEREAS, the petitioner (RGP Tower Group LLC) proposes to construct a new stealth facility on the subject property; and,

WHEREAS, the owner (Sheridan House Inc.) of subject property has agreed to lease a portion of the subject property for the proposed stealth facility; and,

WHEREAS, the proposed stealth facility shall be a one-hundred and twenty (120) foot flag pole located in the southwestern portion of the subject property; and,

WHEREAS, the proposed stealth facility shall met all Federal, State, and Local Wireless Communication Facility regulations.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF DAVIE, FLORIDA.

SECTION 1. The Town Council of the Town of Davie does hereby approve the Wireless Telecommunication Infrastructure Application for a new stealth facility with the Sheridan House Inc. property.

SECTION 2. This resolution shall be recorded in the Broward County public records.

SECTION 3. This resolution shall take effect immediately upon its passage and adoption.

PASSED AND ADOPTED THIS _____ DAY OF _____, 2008.

_____
MAYOR/COUNCILMEMBER

ATTEST:

_____

TOWN CLERK

APPROVED THIS _____ DAY OF _____, 2008.

Exhibit *(Cityscape Consultant Report)*

Telecommunications Site Review

CityScape Consultants, Inc.
7040 W. Palmetto Park Road #4, PMB 652
Boca Raton, FL 33433-3483
Phone: 954-757-8668 □ Fax: 954-757-9994

February 13, 2008

Mr. David M. Abramson
Planner II
Development Services Department
Town of Davie
6591 Orange Avenue
Davie, Florida 33314

RE: RGP Tower Group
T-Mobile ~ Sheridan House

Dear Mr. Abramson,

At your request on behalf of the Town of Davie, Florida, CityScape Consultants, in its capacity as telecommunications consultant for the Town, has considered the merits of an application submitted by RGP Tower Group ("RGP"), to construct a new one hundred (100) foot Concealed tower to appear as a flagpole. The facility is intended to accommodate the antennas of up to three (3) wireless services. The initial tenant will be T-Mobile Wireless service, who has indicated a need for new facilities and has obtained RGP to construct the site. The ground area of the facility is owned by Sheridan House, Inc. and is located at 1700 South Flamingo Road, in Davie, Florida 33314, see *Figure 1*.

This application for a new antenna support structure and is intended to supply antenna space to allow for an improvement of over-capacity issues in the immediate area. The area is a reasonably populated area and there is substantial traffic along Flamingo Road. The amount of wireless telephone activity along this route has resulted in a number of dropped or uncompleted calls. The internal tracking register for T-Mobile shows the need of service improvement

This is considered a new facility and is allowed a higher scrutiny by the Town to assure the need is warranted. The proposed location is a variation from the Davie Master Telecommunication Plan and therefore the Town can make a decision as to the approval or denial for this application based solely on a belief that this proposed facility, as located, designed and constructed, would or would not be in the best interest of the Town and the citizens. There will be a requirement for a new facility in the immediate area surrounding the proposed site. CityScape did review all of the documents to assure the necessary federal, state and county codes and regulations are met, and we will describe our findings and reasoning of the information including additional considerations that could be utilized to meet multiple carrier's needs.

CityScape knows that South Florida is arguably the nation's highest cell phone penetration area. The initial, second and third phase of wireless network infrastructure deployment has been obtained. All future applications in the Davie area will be intended to relieve system overload ("capacity"). This will result in spacing between each carrier's facilities substantially closer than most communities anticipated.

In Davie, the controlling factor is the local fixed and transient population. The area has a dense population and is continuingly growing, therefore the demand for new services are warranted under the Federal Telecommunications Act to allow carrier's to deploy their services. The Town does have, specified within the existing ordinance, a hierarchy table requesting the review of Town property as a first choice for site location.

To confirm the applicant's proposed location, CityScape reviews the submitted search ring to assure the accuracy of the proposed area. The carrier's search ring was submitted, see *Figure 2.* CityScape finds the submitted search ring to be inconsistent with the designated carrier's needs, but in this situation we believe the search ring is too liberal and should be reduced to a smaller radius. We assume this search ring is more fitting a tower company in an admirable attempt to maximize the use of a new support structure. In T-Mobile's case the finite search area should be nearly ½ the shown size. None of these issues are a concern to the acceptability of the application. Within this search ring are two Town-owned properties. To the South is an existing monopole tower located on Fire Station property, see *Figure 3.* There are two problems with this site beyond being what we feel is outside a qualified search ring. First the facility has only one remaining slot and the elevation is too low to meet the carrier's objectives, secondly the site is too close proximity to an existing T-Mobile facility and would not alleviate problems but would create problems. To the north is a second Town property. This location, CityScape believes, would fit the carrier's objectives if constructed at an elevation of 120 feet, which is allowable under the ordinance. There was some concern about setbacks, but for this type of support structure, the Town of Davie has included in the ordinance break-point technology. This advanced technology allows the structure to be constructed in a manner that would substantially reduce the setback requirements, and would make the structure compatible with the Town ordinance. In the applicant's narrative there is a statement by Mr. Scott Richards, managing partner of RGP Tower Group, that the Town informed the carrier that the use of this site for a telecommunications facility would encumber the ability to further develop the site for the Town's needs.

The carrier submitted a propagation map utilizing the second Town property above but from an elevation of ninety (90) feet. This is not realistic as that elevation would limit the hand-off service to a radius of 1.38 miles. The service from a structure of one hundred-twenty (120) feet would allow for a radius of 1.6 miles, which is reflective of the other surrounding T-Mobile facilities, see *Figure 4.*

General Information

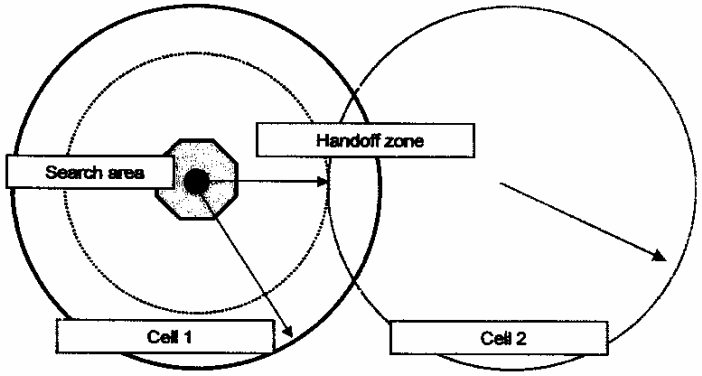
All wireless communications systems depend on the concept of resource re-use to achieve their great capacities. With some technologies, the individual channel frequencies are reused every few cells, but not too closely, since interference would result. In other systems, power from one base station interferes with the users on another, impacting network capacity. Therefore, it is undesirable for the wireless phones to communicate with more than a few base stations simultaneously.

Wireless Broadband, Cellular, PCS and EMSR service providers attain coverage through ground equipment base stations and antennas mounted on towers or other elevated structures and buildings. The height and location of the elevated antenna platform is critical to two aspects of radio frequency (RF) engineering. The first of these is wireless network coverage.

Generally, the higher the antenna is mounted on the support structure, the farther the wireless signal penetrates a defined geographic area. However, the ground equipment at the base station has capacity limitations. In areas where wireless subscribers are intense and airtime minutes are high, caller volume will exceed the designed network capacity, resulting in busy signals or "no service" messages. To help remedy this situation, the antenna heights are mounted at lower elevations than would be necessary for coverage.

In the wireless system evolution, a provider will, in early phases of infrastructure development, provide service with a few coverage base stations with relatively tall antenna elevations to maximize the "footprint" for minimal cost. Davie presently is considered a mature telecommunications community. As subscriber totals grow, and network capacity for that base station is maximized, antennas must be lowered and the areas in between the former "tall" base stations fill in with lower-antenna "coverage" base stations.

Such a stipulation is not difficult to achieve in a new system. In most cities and in all rural areas, wireless providers seek to maximize height in new systems in order to provide continuous coverage at the least expense to the provider. However, in urban-to-suburban areas, as demand increases, the base stations become less capable of meeting network objectives. Thus, wireless providers seek to deploy antennas mounted at lower elevations.



Sample 1: Search Area Determination
In Sample 1, the hexagonal search areas radius is one-quarter of the radius of the cells coverage less a 20 percent handoff overlap.

Application Specifics
Specifically, the undersigned has evaluated this proposal from the following perspectives:

That,

1. The proposed facility will assist in reducing the capacity issues and will accelerate the ability for all wireless services to further expand into Davie; and,
2. The Applicant has followed the guidelines of the Telecommunications Act of 1996, State of Florida Law and all applicable aspects of the Davie Ordinance.

All designs and plans for the proposed new facilities were developed according to accepted practices of RF propagation engineering and the persons completing all work are sufficiently qualified within their disciplines. The projected new service area is shown in *Figure 5.*

CityScape looked beyond the scope of the applicant's proposal to consider additional future needs for wireless services in Davie. We studied the current status of all known carriers in the area and find there is likely a need for more than a total of three carrier's facilities at this site. In order to best project potential new wireless services from the proposed site, CityScape utilized propagation software that better represents the network deployment capabilities from this location and therefore represents the signal projection. The applicant and the carrier have satisfied the threshold of proof and clearly justifies a need for a new support structure in this general area. CityScape anticipates this facility, if built as designed, should be sufficient to allow an improvement of service to wireless service provider customers within this area into the foreseeable future.

CityScape recognizes that Davie is a rapid growth area. This facility will be available to all federally licensed and unlicensed service providers, which includes cellular type telephone, and wireless broadband systems. The concealed facility structure is at an elevation below the maximum allowable height, and is planned to be constructed to accommodate up to three new wireless services. Therefore this application does conform to the desires of Davie, and finds this acceptable and not in conflict with any telecommunications aspect provisions of the Town of Davie Ordinance.

The Applicant supplied a letter of compliance with all FCC standards regarding human exposure to Radio Frequency energy, see *Figure 6*, and will comply with all aspects of FCC rules regarding interference to other radio services, see *Figure 7*. CityScape knows that this facility will operate in various frequencies and therefore must review the future applications for wireless service providers to assure various concerns including, but not limited to, interference to Public Safety radio operations.

CityScape Consultants, Inc.

Telecommunications Site Review

For the reasons listed below, it is our opinion that:

- **The proposed facility would be beneficial and meet the desires of the Town because of generally accepted and adequately demonstrated technological reasons and; and**
- **The applicant's submissions show there is an over-capacity issue in the general area surrounding the subject site and that the addition of new facility will provide an antenna platform capable of supplying wireless services for the general public. This service would be for emergency E-911 service along with general cellular type and wireless broadband communications. Therefore the proposed location will sufficiently accomplish satisfactory service. There is a higher ranking location within the design criteria of the site, but it was stated the Town elected not to pursue the option.**

Conclusion and Recommendation

CityScape is of the opinion that the approval for construction of a facility is warranted to facilitate improved wireless services in the general area. CityScape visited the proposed site in November 2007, and has determined all necessary requirements can be accommodated within the property limits. *Exhibits A-E* are photographs from the center of the proposed facility and in four directions. The site will be designed and constructed by professionals with expertise in telecommunications site design and construction on behalf of the Applicant. This practice corresponds with the desires of the Town of Davie; therefore:

CityScape recommends approval with the following condition:

1. The Applicant secures all necessary permits required, submits structural design and certification by a Florida Registered Professional Engineer that the proposed facility, as built, will comply with EIA/TIA 222-G for the wind zone of Broward County, Florida.
2. The Town should request the support structure to be raised in height to the maximum of one hundred-twenty (120) feet and be able to accommodate a total of up to four (4) wireless services, with all feed lines within the cover of the support structure, unless the applicant can show just cause otherwise.
3. All proposed generators should be equipped with a silencer to maintain noise levels below 70 db.
4. The generator can only be tested with the permission of the property owner and only between the hours of 9 AM to 4 PM.
5. The facility have installed the necessary landscaping buffer.
6. Attest SHPO and NEPA requirements are met.

Respectfully submitted,

Richard L. Edwards
FCC Licensed
PCIA Certified
CityScape Consultants, Inc.

CityScape Consultants, Inc.

Telecommunications Site Review

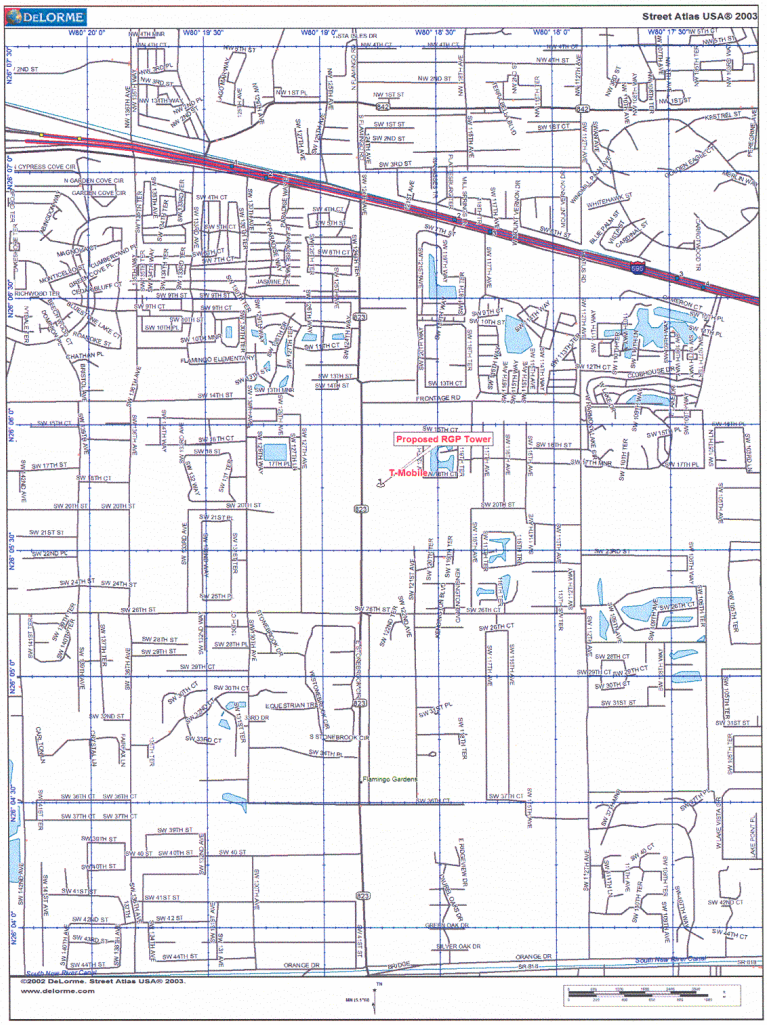


Figure 1. Proposed Facility Location

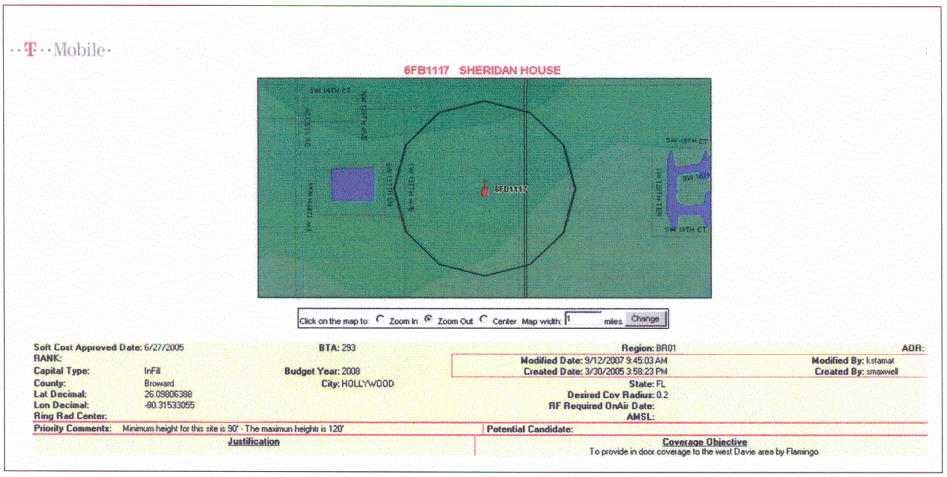
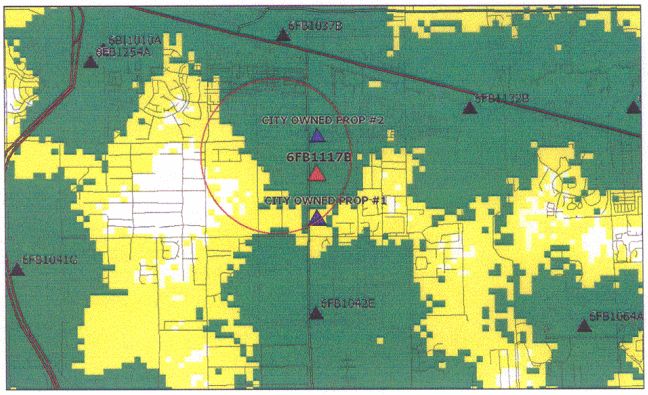


Figure 2. Search Ring

Figure 3. Existing Fiore Station Monopole

1.) Coverage with City Owned Property #2:

The City Owned Property located on South Flamingo Road and SW 14th Street (City Site #2) does not provide the In Building coverage that is needed for the area needing coverage as shown on Map 1. The City Site #2 is located 0.35 mile north of the Sheridan House proposed FB 1117 candidate site and is 1.11 miles south, southeast of the existing T-Mobile site 6FB1037B that is just north of I-595.The City Site #2 is too close to the existing T-Mobile site 6FB1037 and cannot provide the coverage that is needed West, southwest, of South Flamingo Road.



Theoretical In-building coverage
Theoretical In-car coverage
On Air sites
6FB1117B
City Owned Properties

Figure 4. Coverage from Northern Most Town Property

1.) Coverage with 6FB1117B:

Sheridan House located on South Flamingo Road and SW 20th Street provides the In Building coverage that is needed for the Search Ring

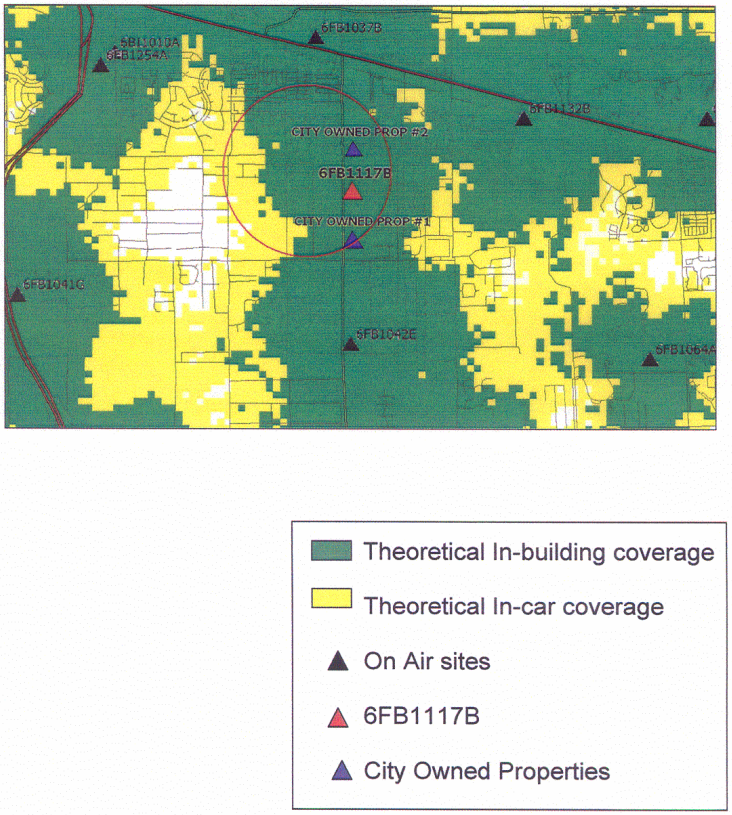


Figure 5. Predicted Service From Proposed Site at Sheridan House

T-Mobile

T- Mobile USA, Inc.
8100 SW 10th St. Suite 1000
Plantation, Fl. 33324
Office: 954-693-7100 Fax: 954-693-7200

Broward County

February 07, 2008

Re: RF EME Emission issues and Compliance

To Whom It May Concern:

T-Mobile transmits in the E&F PCS frequency band as defined by the FCC (1965-1975 MHz).

The power levels of the proposed base station installation will not exceed 1640 W EIRP, the power level outlined in the PCS FCC Rule Part 24. Typical General Public Exposure in the near field (defined as less than 10 Meters directly in front of the antenna) of a PCS site is less than 1 uW/cm2, again, below the established standard of 1 mW/cm2. Presently, all tower and building locations where we have antennas have not exceeded the FCC Uncontrolled / Controlled Environment Maximum Permissible Exposure level. In the case that such situation arises and T-Mobile was transmitting at levels above the FCC Uncontrolled / Controlled Environment MPE levels, T-Mobile would initiate our RF Energy Safety and Health policies and procedures programs to remedy the situation.

The entire T-Mobile installation, including the antennas, are well within the most conservative safety recommendations of the National Council on Radiation Protection and Measurement (NCRP), the Institute of Electrical and Electronic Engineers (IEEE), the American National Standards Institute (ANSI). The proposed installation will meet all FCC safety rules for PCS transmission standards including the Non-Ionizing Electromagnetic guidelines for transmission facilities.

Sincerely,

Patrick Liautaud
RF Engineer
T-Mobile
(305) 401-9503

Figure 6. Human Exposure Compliance

T-Mobile

T- Mobile USA, Inc.
8100 SW 10th St. Suite 1000
Plantation, Fl. 33324
Office: 954-693-7100 Fax: 954-693-7200

To: City of Davie

From: T-Mobile USA

Date: February 07, 2008

Re: Interference Letter

The intent of this letter is to confirm that the proposed T-Mobile USA telecommunication site (FB1117) will not in any way impede with reception and transmission of the City of Davie's public safety communication systems. This includes television stations, radio stations, or other two-way and cellular services to either residential or commercial establishments.

T-Mobile USA has met FCC rules and regulations part 22, section 22.902 (d) regarding prior frequency coordination and notification: "…all applicants for regular authorization in Domestic Public Cellular Telecommunication Service or when permissive changes (i.e. changes in frequency assignment not requiring prior commission approval) are made within an authorized Cellular Geographic Service Areas within 75 miles of all base stations affected, and with other applicants with previously filed applications whose facility could affect or could be affected by the new proposal in terms of intersystem frequency interference or restricted ultimate system capacity."

The proposed PCS communication facility has passed all relevant FCC interference requirements and is thus certified not to interfere with other electrical systems. The construction, placement or operation of the tower or antennas will not create unacceptable interference with the City of Davie's Public Safety Communications Systems.

T-Mobile USA will acknowledge and respond to a notification of possible interference from the City of Davie. Upon receipt of this notification T-Mobile USA will dispatch a field technician and/or a RF Engineer within 24 hours to analyze the problem. If T-Mobile USA is found to be responsible for the problem, necessary steps will be taken immediately to resolve the issue. T-Mobile USA can be reached at (888-218-6664) 24 hours a day, 7 days a week.

Sincerely,

Patrick Liautaud
RF Engineer
T-Mobile USA
(305) 401-9503

Figure 7. Interference Compliance

Exhibit A. Concealed Flagpole Location

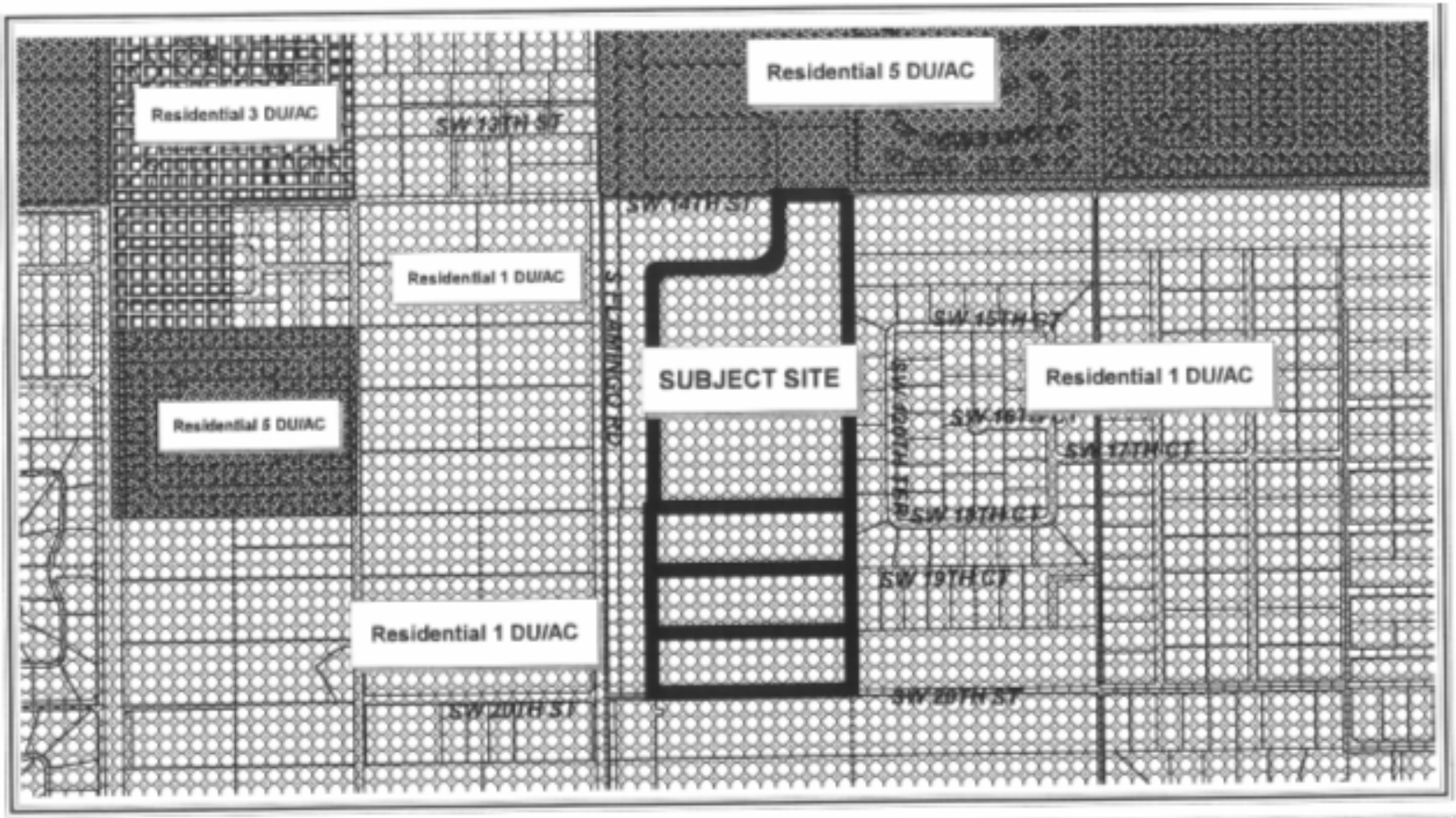
Exhibit B. Looking North

Exhibit C. Looking West

Exhibit D. Looking South

Exhibit E. Looking East

Exhibit (*Future Land Use Map*)



Date Flown:
12/31/00

N

800 0 800 Feet

Planning & Zoning Division - GIS

TOWN OF DAVIE FLORIDA

Future Land Use Map

Prepared By: rkm
Date Prepared: 11/20/03

Exhibit (*Aerial, Zoning, and Subject Site Map)*

Date Flown:
12/31/00

N

0.2 0 0.2 0.4 Miles

Planning & Zoning Division - GIS

Zoning and Aerial Map

Prepared by: ID
Date Prepared: 8/27/03